

What is claimed is:

1. A method for fabricating a diamond with geometrical shape, comprising:

5 preparing a matrix with a geometrical shape;

synthesizing a diamond film on the matrix by CVD process to form a diamond/matrix composite, said composite being partially uncoated with the diamond film to have an opening site; and

10 etching the matrix of partially covered composite through the opening site to obtain a hollow diamond shell.

2. The method of claim 1, wherein the size of the matrix is in the range between 200 nm and 2 mm in length longest.

15 3. The method of claim 1, further comprising the step of applying vibrations to a plate on which the matrix is placed, to let the matrix move and rotate.

20 4. The method of claim 1, wherein the matrix is pretreated by using diamond powders agents in an ultra-sonic bath to incite nucleation of diamond on the matrix.

5. The method of claim 4, wherein an opening on the matrix is formed by attaching glue tapes during the pretreatment.

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6. The method of claim 1, wherein the diamond film formed on the matrix has a (100) prevailing surface or nanocrystalline morphology usable.

7. A hollow diamond shell with a geometrical figure fabricated by the
5 method of claim 1.

8. A method for fabricating a diamond with geometrical shape, comprising:

preparing a matrix with a geometrical shape;
10 synthesizing diamond particles on the matrix by CVD process to form a diamond/matrix composite; and
etching the matrix to obtain diamond particles.

9. The method of claim 8, wherein the size of the diamond particles is in
15 the range between 10 nm and 100 μm .